



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,680	04/27/2007	Fred A. Vaccari	1586.001	4819
23598 7590 10/13/2009 BOYLE FREDRICKSON S.C. 840 North Plankinton Avenue MILWAUKEE, WI 53203				
EXAMINER SZMAL, BRIAN SCOTT				
ART UNIT 3736		PAPER NUMBER		
NOTIFICATION DATE 10/13/2009		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@boylefred.com

Office Action Summary

Application No.

10/597,680

Applicant(s)

VACCARI ET AL.

Examiner

BRIAN SZMAL

Art Unit

3736

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SE/US)
Paper No(s)/Mail Date 8/3/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

Claim Objections

1. Claim 11 is objected to because of the following informalities: In lines 1-2, "at least one of first and second participants" should read as "at least one of a first and second participant" to be grammatically correct. Appropriate correction is required.
2. Claim 15 is objected to because of the following informalities: In line 1, "A method according to for operating" should read as "A method for operating" to be grammatically correct. Appropriate correction is required.
3. Claim 16 is objected to because of the following informalities: In line 3, "it" is not clearly defined by the claim. Appropriate correction is required.
4. Claim 17 is objected to because of the following informalities: In line 3, "he" should read as "the". Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-7, 9-16 and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Socci et al (5,916,181).

Socci et al disclose head gear for detecting head motion and position and further disclose a position sensor for sensing the position of the head of the user and providing a signal indicative of the sensed head position; a processor connectable to the position

sensor for receiving the signal indicative of the sensed head position, the processor determining if the head of the user has been in an unsafe position for a first continuous period of time and producing a signal qualifying the determination; an indicator connectable to the processor for receiving the signal qualifying the determination and subsequently indicating that the head of the user is in an unsafe position; an activator for switching the electronic safety device between an active mode, in which the electronic safety device operates to monitor of the head position of the user, and a standby mode, in which the electronic safety device does not monitor of the head position of the user; the activator is a toggle switch; the activator includes an automatic turn-off system for switching the electronic safety device from the active mode to the standby mode; a power connector for delivering power to at least one of the processor, the position sensor and the indicator; the power connector includes a connection to a battery; a protective housing; the indicator includes at least one of an audible indicator, a visual indicator and a vibration indicator; the processor further determines if the head of the first participant has been in an unsafe position for a second continuous duration of time, which is longer than the first continuous duration of time, and producing a signal for the indicator to stop indicating if the head has been in the unsafe position for the second continuous duration of time (the auto off feature of Socci et al would turn off the device if the processor has determined the device has not moved in a predetermined period of time); sensing an unsafe head tilt of the first participant; determining if the sensed unsafe head tilt has been maintained for at least a first continuous duration of time; indicating to one of the first and second participants that the head tilt of the first

participant is unsafe; stopping the indicating after a second continuous duration of time (the auto off feature of Socci et al would turn off the device if the processor has determined the device has not moved in a predetermined period of time); stopping the sensing, determining and indicating after a second continuous duration of time (the auto off feature of Socci et al would turn off the device if the processor has determined the device has not moved in a predetermined period of time); re-starting the sensing, determining and indicating after a third continuous duration of time (the device goes into a "sleep" mode if the processor determines the device is not in use; one of ordinary skill in the art would recognize a device in "sleep" mode can be awakened, thus restarting the measurement); determining whether or not the electronic safety device is in use; maintaining an active mode for the electronic safety device, if it is determined that the electronic safety device is in use; determining if the device is in motion; a shell providing a main cavity adapted to fit around a human head; a layer of padding lining the inside of the main cavity of the shell; an electronic safety device for determining and indicating that a head of a wearer of the helmet is in an unsafe position; and the helmet suited for use during one of football, hockey, lacrosse, downhill skiing, short-track speed skating, snowboarding, paint-ball and bicycle-riding. See whole document, in particular, Column 3, lines 25-35; Column 4, lines 10-27; Column 6, lines 9-10; Column 7, lines 22-24; Column 8, lines 20-34; Column 10, lines 19-Column 11, lines 45 disclose hockey and football helmets; and Column 12, lines 1-13 disclose skating helmets.

7. Claims 1-7, 9-16 and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Socci et al (6,331,168).

Socci et al disclose head gear for detecting head motion and position and further disclose a position sensor for sensing the position of the head of the user and providing a signal indicative of the sensed head position; a processor connectable to the position sensor for receiving the signal indicative of the sensed head position, the processor determining if the head of the user has been in an unsafe position for a first continuous period of time and producing a signal qualifying the determination; an indicator connectable to the processor for receiving the signal qualifying the determination and subsequently indicating that the head of the user is in an unsafe position; an activator for switching the electronic safety device between an active mode, in which the electronic safety device operates to monitor of the head position of the user, and a standby mode, in which the electronic safety device does not monitor of the head position of the user; the activator is a toggle switch; the activator includes an automatic turn-off system for switching the electronic safety device from the active mode to the standby mode; a power connector for delivering power to at least one of the processor, the position sensor and the indicator; the power connector includes a connection to a battery; a protective housing; the indicator includes at least one of an audible indicator, a visual indicator and a vibration indicator; the processor further determines if the head of the first participant has been in an unsafe position for a second continuous duration of time, which is longer than the first continuous duration of time, and producing a signal for the indicator to stop indicating if the head has been in the unsafe position for the second continuous duration of time (the auto off feature of Socci et al would turn off the device if the processor has determined the device has not moved in a predetermined

period of time); sensing an unsafe head tilt of the first participant; determining if the sensed unsafe head tilt has been maintained for at least a first continuous duration of time; indicating to one of the first and second participants that the head tilt of the first participant is unsafe; stopping the indicating after a second continuous duration of time (the auto off feature of Socci et al would turn off the device if the processor has determined the device has not moved in a predetermined period of time); stopping the sensing, determining and indicating after a second continuous duration of time (the auto off feature of Socci et al would turn off the device if the processor has determined the device has not moved in a predetermined period of time); re-starting the sensing, determining and indicating after a third continuous duration of time (the device goes into a "sleep" mode if the processor determines the device is not in use; one of ordinary skill in the art would recognize a device in "sleep" mode can be awakened, thus restarting the measurement); determining whether or not the electronic safety device is in use; maintaining an active mode for the electronic safety device, if it is determined that the electronic safety device is in use; determining if the device is in motion; a shell providing a main cavity adapted to fit around a human head; a layer of padding lining the inside of the main cavity of the shell; an electronic safety device for determining and indicating that a head of a wearer of the helmet is in an unsafe position; and the helmet suited for use during one of football, hockey, lacrosse, downhill skiing, short-track speed skating, snowboarding, paint-ball and bicycle-riding. See whole document, in particular, Column 3, lines 35-45; Column 4, lines 22-39; Column 6, lines 23-24; Column 7, lines 40-44; Column 8, lines 39-53; Column 9, lines 61-67; Column 10, line 42-Column 11, line 20

disclose hockey helmets; Column 11, line 43-Column 12, line 5 disclose football helmets; and Column 14, lines 6-18 disclose skating helmets.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Socci et al (5,916,181) as applied to claim 1 above, and further in view of Lee (WO02/091001 A1).

Socci et al, as discussed above, disclose a means for monitoring the position of a user's head, but fail to disclose the position sensor includes a piezoelectric element.

Lee discloses an accelerometer and further discloses the sensor includes a piezoelectric element. See Abstract.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the sensor of Socci et al with the piezoelectric based accelerometer, as per the teachings of Lee, since it is well known in the art that an accelerometer provides positional information.

10. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Socci et al (6,331,168) as applied to claim 1 above, and further in view of Lee (WO02/091001 A1).

Socci et al, as discussed above, disclose a means for monitoring the position of a user's head, but fail to disclose the position sensor includes a piezoelectric element.

Lee discloses an accelerometer and further discloses the sensor includes a piezoelectric element. See Abstract.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the sensor of Socci et al with the piezoelectric based accelerometer, as per the teachings of Lee, since it is well known in the art that an accelerometer provides positional information.

11. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Socci et al (5,916,181) as applied to claim 15 above, and further in view of Tilley et al (2004/0206609 A1).

Socci et al, as discussed above, disclose a means for monitoring head position and further disclose the use of different ways to turn the device on and off, but fail to disclose the use of a photoelectric switch to operate the device by determining if sufficient ambient light is being received by the device from the surrounding environment.

Tilley et al disclose an electronic timer with a photosensor, and further disclose the use of a photoelectric switch to operate the device by determining if sufficient ambient light is being received by the device from the surrounding environment. See Paragraph 0008.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the means of Socci et al to include the use of a

photoelectric switch, as per the teachings of Tilley et al, since it would provide a means of automatically turning off the sensing devices when the devices are stored in the dark and being unused.

12. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Socci et al (6,331,168) as applied to claim 15 above, and further in view of Tilley et al (2004/0206609 A1).

Socci et al, as discussed above, disclose a means for monitoring head position and further disclose the use of different ways to turn the device on and off, but fail to disclose the use of a photoelectric switch to operate the device by determining if sufficient ambient light is being received by the device from the surrounding environment.

Tilley et al disclose an electronic timer with a photosensor, and further disclose the use of a photoelectric switch to operate the device by determining if sufficient ambient light is being received by the device from the surrounding environment. See Paragraph 0008.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the means of Socci et al to include the use of a photoelectric switch, as per the teachings of Tilley et al, since it would provide a means of automatically turning off the sensing devices when the devices are stored in the dark and being unused.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN SZMAL whose telephone number is (571)272-

4733. The examiner can normally be reached on Monday-Friday, with second Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on (571) 272-4726. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Brian Szmal/
Examiner, Art Unit 3736